

## REMARKS

Upon entry of these amendments, claims 21-38 are pending. Claims 1-20 are canceled without prejudice. Applicants reserve the right to pursue any canceled subject matter in a related application. Supports for new claims can be found in the specification and the claims as originally filed. For example, support for new claims 21-29 can be found in the specification, *e.g.*, at page 6, lines 23-27; support for new claim 30 can be found in the specification, *e.g.*, at page 116, line 1, to page 123; support for new claim 31 can be found in the specification, *e.g.*, at page 6, lines 5-22; support for new claim 32 can be found in the specification, *e.g.*, at page 6, line 39, to page 7, line 13; support for new claim 33 can be found in the specification, *e.g.*, at page 4, lines 7-13; support for new claims 34-36 can be found in the specification, *e.g.*, at page 7, lines 29-33; and support for new claims 37-38 can be found in the specification, *e.g.*, at page 28, lines 8-15. No new matter is introduced.

The Examiner has required an election under 35 U.S.C. § 121 of one of the following inventions:

- I. Claims 1-3 and 15 drawn to an isolated polypeptide, a composition comprising a polypeptide and a kit comprising the said composition, classified in class 530, subclass 350.
- II. Claims 4-9, drawn to a method of determining the presence of polypeptide, classified in class 435, subclass 7.1.
- III. Claim 10, drawn to a method for screening for a modulator of activity comprising administering a compound to a recombinant animal, classified in class 800, subclass 3.
- IV. Claims 11-12, drawn to an antibody, classified in class 530, subclass 587.1.
- V. Claims 13-14 and 17-20, drawn to a nucleic acid molecule, a vector comprising a nucleic acid molecule, a cell comprising a vector comprising a nucleic acid molecule and method of producing a polypeptide, classified in class 435, subclass 69.1.

VI. Claim 16 drawn to a method of treating a pathological state in a mammal, classified in class 514, subclass 12.

The Examiner contends that Groups I - VI are distinct, each from the other.

The Examiner additionally requires that Applicants select an amino acid/nucleic acid sequence that is consonant with the elected invention.

In response, Applicants hereby elect the invention of Group V, Claims 13-14 and 17-20 (new claims 21-38), drawn to a nucleic acid molecule, a vector comprising a nucleic acid molecule, a cell comprising a vector comprising a nucleic acid molecule and method of producing a polypeptide, classified in class 435, subclass 69.1.

Applicants also hereby provisionally elect, with traverse, a nucleic acid sequence encoding a polypeptide comprising an amino acid sequence of SEQ ID NO: 104.

With respect to the Examiner's request of electing a single amino acid/nucleic acid sequence, Applicants respectfully traverse and request that the requirement be withdrawn.

The Examiner's attention is invited to M.P.E.P. § 803.04 (Eighth Edition, August 2001, revised May 2004)

It has been determined that normally ten sequences constitute a reasonable number for examination purposes. Accordingly, in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction. In addition to the specifically selected sequences, those sequences which are patentably indistinct from the selected sequences will also be examined.

Thus, at least ten (10) sequences should be examined in the instant application.

Moreover, as shown in page 116, line 1, to page 127 of the specification, SEQ ID NOs: 100, 102, 104, 106, 108, 110, 112, and 114 all represent variants or fragments (*e.g.*, cytoplasmic domain) of the NOV9 gene. ClustalW alignments of the NOV9 variants and fragments are shown in Appendix A and B (attached hereto). Applicants submit that to search these sequences together would not be a serious burden on the Examiner. The M.P.E.P. § 803 (Eighth Edition, August 2001, revised February 2003) states:

If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.

Thus, Applicants request that all the nucleic acids encoding SEQ ID NOs: 100, 102, 104, 106, 108, 110, 112, and 114 be elected. In the alternative, Applicants request that election of a single SEQ ID NO be considered a species election, and the remaining SEQ ID NOs of the NOV9 gene be re-entered into the genus once the elected sequence is deemed allowable.

Applicant retains the right to petition from the restriction requirement under 37 C.F.R. §1.144.

Upon the allowance of a generic claim, Applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim pursuant to 37 C.F.R. § 1.141.

## CONCLUSION

Applicants respectfully request that the amendments and remarks made herein be entered and made of record in the file history of the present application. Applicants respectfully submit that the pending claims are in condition for allowance. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

Date: January 26, 2005

  
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Appendix A: ClustalW Alignment of NOV9 Variants



311531751 \*\*\*  
CG56008-02 \*\*\*  
CG56008-06 1 \*\*\*  
SNP1376562 \*\*\*  
CG56008-03 \*\*\*  
CG56008-04 \*\*\*  
CG56008-03 1 MGGAAAGWLRAAAPGPROSQSNETTACSRILVEISRRHQWARSEPSGPPVWNQTCARORAVG 60  
CG56008-02 1 NPLHELKAAA FPQTTEKISPNWESGINVNDLAIS \*\*\*  
CG56008-06 1 NPLYELKAAA FPQTTEKISPNWESGINVNDLAIS 5  
SNP1376562 6 PNPFLQLDLS TARKLSVLVILTFALSV TNPLHELKAAA FPQTTEKISPNWESGINVNDLAIS \*\*\*  
CG56008-03 \*\*\*  
CG56008-04 \*\*\*  
CG56008-03 1 MARKLSVLVILTFALSV TNPLHELKAAA FPQTTEKISPNWESGINVNDLAIS 51  
CG56008-02 1 MARKLSVLVILTFALSV TNPLHELKAAA FPQTTEKISPNWESGINVNDLAIS 51  
CG56008-03 61 QRQRGDEGAMARKLSVLVILTFALSV TNPLHELKAAA FPQTTEKISPNWESGINVNDLAIS 120  
311531751 1 TROYHLQLLFYRYGENNLSLSVEGFRKLQLQNLIGIDIKRIRHIIHHDDHHSDHEHHSDEHERH 93  
CG56008-02 34 TROYHLQLLFYRYGENNLSLSVEOFRKLQLQNLIGIDIKRIRHIIHHDDHHSDHEHHSDEHERH 93  
CG56008-06 66 TROYHLQLLFYRYGENNLSLSVEGFRKLQLQNLIGIDIKRIRHIIHHDDHHSDHEHHSDEHERH 125  
SNP1376562 52 TROYHLQLLFYRYGENNLSLSVEGFRKLQLQNLIGIDIKRIRHIIHHDDHHSDHEHHSDEHERH 111  
CG56008-03 52 TROYHLQLLFYRYGENNLSLSVEGFRKLQLQNLIGIDIKRIRHIIHHDDHHSDHEHHSDEHERH 111  
CG56008-04 52 TROYHLQLLFYRYGENNLSLSVEGFRKLQLQNLIGIDIKRIRHIIHHDDHHSDHEHHSDEHERH 111  
CG56008-03 121 TROYHLQLLFYRYGENNLSLSVEGFRKLQLQNLIGIDIKRIRHIIHHDDHHSDHEHHSDEHERH 180  
311531751 94 SDHEHHSDHEHHS DHDHHSHSHRNHAASGKNRKALCPDHD SDSSGKDPRN SQQGKAHRPEH 153  
CG56008-02 94 SDHEHHSDHEHHS DHDHHSHSHRNHAASGKNRKALCPDHD SDSSGKDPRN SQQGKAHRPEH 153  
CG56008-06 126 SDHEHHSDHEHHS DHDHHSHSHRNHAASGKNRKALCPDHD SDSSGKDPRN SQQGKAHRPEH 185  
SNP1376562 112 SDHEHHSDHEHHS DHDHHSHSHRNHAASGKNRKALCPDHD SDSSGKDPRN SQQGKAHRPEH 171  
CG56008-03 112 SDHEHHSDHEHHS DHDHHSHSHRNHAASGKNRKALCPDHD SDSSGKDPRN SQQGKAHRPEH 171  
CG56008-04 112 SDHEHHSDHEHHS DHDHHSHSHRNHAASGKNRKALCPDHD SDSSGKDPRN SQQGKAHRPEH 168  
CG56008-03 181 SDHEHHSDHEHHS DHDHHSHSHRNHAAT ECG - LSSGLST - SWAVFCHELPH 227  
311531751 154 ASGRRNVKDSVSASEVTSTVYNTVSEGTHTLETETPRPG - KLPFKDVSSSTPPSVTS 210  
CG56008-02 154 ASGRRNVKDSVSASEVTSTVYNTVSEGTHTLETETPRPG - KLPFKDVSSSTPPSVTS 210  
CG56008-06 186 ASGRRNVKDSVSASEVTSTVYNTVSEGTHTLETETPRPG - KLPFKDVSSSTPPSVTS 242  
SNP1376562 172 ASGRRNVKDSVSASEVTSTVYNTVSEGTHTLETETPRPG - KLPFKDVSSSTPPSVTS 228  
CG56008-05 172 ASGRRNVKDSVSASEVTSTVYNTVSEGTHTLETETPRPG - KLPFKDVSSSTPPSVTS 228  
CG56008-04 169 LSS - O - LSTSWAVFCHELPH ECDFAVLLKAOMIVKQAL - VLTINA LSAMLAYLQMAJ 221  
CG56008-03 228 E LBDPFAVLLKAOMIVKQALVLTINA LSAMLAYLQMAJ GHYAENSMWIFALTAGLFMY 287  
311531751 211 KSRVSLLAGRKTNESVESEPRKGFMYSRNTNENPQECFNA SKLLTSHGMG IQVPLNATEFN 270  
CG56008-02 211 KSRVSLLAGRKTNESVESEPRKGFMYSRNTNENPQECFNA SKLLTSHGMG IQVPLNATEFN 270  
CG56008-06 243 KSRVSLLAGRKTNESVESEPRKGFMYSRNTNENPQECFNA SKLLTSHGMG IQVPLNATEFN 302  
SNP1376562 229 KSRVSLLAGRKTNESVESEPRKGFMYSRNTNENPQECFNA SKLLTSHGMG IQVPLNATEFN 288  
CG56008-03 229 KSRVSLLAGRKTNESVESEPRKGFMYSRNTNENPQECFNA SKLLTSHGMG IQVPLNATEFN 288  
CG56008-04 222 QIYLQHIAENVSWMWIFALTQLFMVA LVDMDVPEMHLNDASDHCSRWGYFFLQAJQMLL 281  
CG56008-03 228 VALVDMVPEMHLNDASDHGCSHWGDFLQAGMLLGFGIMLISFEHKIVFRINNSPSPS 347  
311531751 271 YLCPAIIINQIDARSCLIHTSEKKAIEPPKTYSLQIAWVGFFIAISIISFLSLLGVILVPI 330  
CG56008-02 271 YLCPAIIINQIDARSCLIHTSEKKAIEPPKTYSLQ - 304  
CG56008-06 303 YLCPAIIINQIDARSCLIHTSEKKAIEPPKTYSLQIAWVGFFIAISIISFLSLLGVILVPI 362  
SNP1376562 289 YLCPAIIINQIDARSCLIHTSEKKAIEPPKTYSLQIAWVGFFIAISIISFLSLLGVILVPI 348  
CG56008-03 289 YLCPAIIINQIDARSCLIHTSEKKAIEPPKTYSLQIAWVGFFIAISIISFLSLLGVILVPI 348  
CG56008-04 282 QFOIMLLIISIHFHKIVFRINF - 302  
CG56008-03 348 SPPEKPPSSQSQPDLGGAGCRRRGHSGLDGNDQ - 382  
311531751 331 MHVRVFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHH SHSHEEPAMEMKRGPLFSHLS 390  
CG56008-02 \*\*\*  
CG56008-06 363 MHVRVFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHH SHSHEEPAMEMKRGPLFSHLS 422  
SNP1376562 349 MHVRVFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHH SHSHEEPAMEMKRGPLFSHLS 408  
CG56008-03 349 MHVRVFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHH SHSHEEPAMEMKRGPLFSHLS 408  
CG56008-04 \*\*\*  
CG56008-03 \*\*\*  
311531751 391 SQNIEESEAYFDSTWKGLTALGGLYFMFLVEHVTLTLIKQFKDKKKKHNQKPKENDDDVEIKH 450  
CG56008-02 \*\*\*  
CG56008-06 423 SQNIEESEAYFDSTWKGLTALGGLYFMFLVEHVTLTLIKQFKDKKKKHNQKPKENDDDVEIKH 482  
SNP1376562 409 SQNIEESEAYFDSTWKGLTALGGLYFMFLVEHVTLTLIKQFKDKKKKHNQKPKENDDDVEIKH 468  
CG56008-03 409 SONIEESEAYFDSTWKGLTALGGLYFMFLVEHVTLTLIKQFKDKKKKHNQKPKENDDDVEIKH 468  
CG56008-04 \*\*\*  
CG56008-03 \*\*\*  
311531751 451 QLSKYESQLSTNEEKVDTDRTEGYLRADSQEP SHFDSQQPAVLEEEEVMIAAHAPQEYV 510  
CG56008-02 \*\*\*  
CG56008-06 493 QLSKYESQLSTNEEKVDTDRTEGYLRADSQEP SHFDSQQPAVLEEEEVMIAAHAPQEYV 542  
SNP1376562 469 QLSKYESQLSTNEEKVDTDRTEGYLRADSQEP SHFDSQQPAVLEEEEVMIAAHAPQEYV 528  
CG56008-03 469 QLSKYESQLSTNEEKVDTDRTEGYLRADSQEP SHFDSQQPAVLEEEEVMIAAHAPQEYV 528  
CG56008-04 \*\*\*  
CG56008-03 \*\*\*  
311531751 511 NEYVPRGCKNKCHSHFDLTLQSDDLIHHHRDYTHILHHHHONHHPHSHSQRYSRERE 570  
CG56008-02 \*\*\*  
CG56008-06 543 NEYVPRGCKNKCHSHFDLTLQSDDLIHHHRDYTHILHHHHONHHPHSHSQRYSRERE 602  
SNP1376562 529 NEYVPRGCKNKCHSHFDLTLQSDDLIHHHRDYTHILHHHHONHHPHSHSQRYSRERE 588  
CG56008-03 529 NEYVPRGCKNKCHSHFDLTLQSDDLIHHHRDYTHILHHHHONHHPHSHSQRYSRERE 588  
CG56008-04 \*\*\*  
CG56008-03 \*\*\*  
311531751 571 DAGVATLAWMVIMODGHNFSDGLAIGAFTEOLOSSLGSLSTSVAVFCHELPHELODFAVL 630  
CG56008-02 \*\*\*  
CG56008-06 603 DAGVATLAWMVIMODGHNFSDGLAIGAFTEOLOSSLGSLSTSVAVFCHELPHELODFAVL 662  
SNP1376562 589 DAGVATLAWMVIMODGHNFSDGLAIGAFTEOLOSSLGSLSTSVAVFCHELPHELODFAVL 648  
CG56008-03 589 DAGVATLAWMVIMODGHNFSDGLAIGAFTEOLOSSLGSLSTSVAVFCHELPHELODFAVL 648  
CG56008-04 \*\*\*  
CG56008-03 \*\*\*  
311531751 631 KAGMTVKQAVLYNALSAMLAYLQMATGIFIGHYAEVNSMWIFALTAGLFMYVALVDMVPE 690  
CG56008-02 \*\*\*  
CG56008-06 663 KAGMTVKQAVLYNALSAMLAYLQMATGIFIGHYAEVNSMWIFALTAGLFMYVALVDMVPE 722  
SNP1376562 649 KAGMTVKQAVLYHALSAMLAYLQMATGIFIGHYAEVNSMWIFALTAGLFMYVALVDMVPE 708  
CG56008-03 649 KAGMTVKQAVLYNALSAMLAYLQMATGIFIGHYAEVNSMWIFALTAGLFMYVALVDMVPE 708  
CG56008-04 \*\*\*  
CG56008-03 \*\*\*  
311531751 691 MLHNDASDHGCSRWGYFFLQAGMLLGFQIMILLISIFEHKIVFRINF 737  
CG56008-02 \*\*\*  
CG56008-06 723 MLHNDASDHGCSRWGYFFLQAGMLLGFQIMILLISIFEHKIVFRINF 769  
SNP1376562 709 MLHNDASDHGCSRWGYFFLQAGMLLGFQIMILLISIFEHKIVFRINF 755  
CG56008-03 709 MLHNDASDHGCSRWGYFFLQAGMLLGFQIMILLISIFEHKIVFRINF 755  
CG56008-04 \*\*\*  
CG56008-03 \*\*\*

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Appendix B: ClustalW Alignment of NOV9 Variants CG56008-03 (SEQ ID NO: 102) and CG56008-04 (SEQ ID NO: 104)

CG56008-03	1	MGA AAGWLRG AAPG PRGSQSNETTACS RLVE I S RRHQ WARS E PSGPP V WNQTCAR GRAVG	60
CG56008-04	***	-----	***
CG56008-03	61	QRG RGDEGAMARKLSVILITFALSVTNPLHELKAAA FPQT TEKISPNWESGINVDLAIS	120
CG56008-04	1	----- MARKLSVILITFALSVTNPLHELKAAA FPQT TEKISPNWESGINVDLAIS	51
CG56008-03	121	TRQYHLQQQLFYRYG ENNSLS VEGFRKLLQNIGIDKIKRIGHHDHDHSDHEHHS DHERH	180
CG56008-04	52	TRQYHLQQQLFYRYG ENNSLS VEGFRKLLQNIGIDKIKRIGHHDHDHSDHEHHS DHERH	111
CG56008-03	181	S DH EHHS DHE HHS D HDHHS ----- HH NH ----- AAFTEGLSS	212
CG56008-04	112	S DH EHHS DHH FHSH SQRY SREELKDAGVATLAWMVIMGDGLHNRS DGLAIGAAFT EGLSS	171
CG56008-03	213	GLSTSVAVFCHELPHELGDFAVLLKAGMTVKQA VLYN ALSAM LAYLGMATGIFIGHYAEN	272
CG56008-04	172	GLSTSVAVFCHELPHELGDFAVLLKAGMTVKQA VLYN ALSAM LAYLGMATGIFIGHYAEN	231
CG56008-03	273	VSMWI FALTAGLFM VALVDMVP EM LHNDASDHGCS RWGYFF LQNAGML LGFGIMLLISI	332
CG56008-04	232	VSMWI FALTAGLFM VALVDMVP EM LHNDASDHGCS RWGYFF LQNAGML LGFGIMLLISI	291
CG56008-03	333	F EH KIV FRIN FNS PSSPPP KPSSQS QP ALLSGGAERCRRRHSGLDGD NG	382
CG56008-04	292	F EH KIV FRIN F -----	302

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